CMLUX-88S

8 by 8 HDMI V1.3 Matrix

Operation Manual

CMLUX-88S

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Safety Precautions

Please read all instructions before attempting to unpack or install or operate this equipment, and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through module openings or empty slots, as you may damage parts.
- Do not attach the power supply cabling to building surfaces.
- Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.

Revision History

Version No	*Date*	*Summary of Change*
V1	***20090805***	***Preliminary release***

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1. Introduction

While HDMI matrix are getting more and more popular it just feed up the market with higher and higher demand on more inputs and outputs matrix. 8 by 8 HDMI Matrix provides the excellent solution for connecting all the devices and sources together for convenience use, it also provides a variety of choices on where to play the images with existing remote controller. Further, 8 by 8 HDMI V1.3 Matrix can transfer Deep Color video and bit stream digital audio with maximum performance and it supports HDMI 1.3, HDCP 1.1 and DVI 1.0.

Please follow this manual to begin enjoying the benefit of your 8 by 8 HDMI 1.3 Matrix. We suggest keeping it in a safe place for future reference.

2. Applications

- Multi-HDMI sources with multi-HDMI displays control
- Event entertainment integration
- Multi-task project presentation
- Showroom display
- Advertisement display control

3. Package Contents

- 8 by 8 HDMI V1.3 Matrix
- Remote Control CR33 with battery
- 24V DC power adaptor
- Power cord
- Operation Manual

4. System Requirements

HDMI input device(s) and HDMI output device(s) with HDMI cables.

5. Features

- HDMI 1.3, HDCP 1.1 and DVI 1.0 compliant
- Supports digital video formats in Deep Color 10 bits and new lossless compressed (Dolby TrueHD, Dolby Digital Plus and DTS HD Master Audio) digital audio
- The HDMI input is compensated, clock / phase adjusted and jitter eliminated so the output is brand new standard HDMI signal
- Supports recall, memory and key lock function
- Compatible with all HDMI sources and displays
- Supports a wide range of PC and HDTV resolutions from VGA to UXGA and 480i to 1080p
- Supports RS-232 control and firmware upgrading USB port
- Supports IR remote control and IR extender
- Dolby Digital, DTS digital audio transmission (32-192kHz Fs sample rate)
- Supports LPCM 7.1 channels output from each independent HDMI ports
- HDMI cable distance test with 1080p/8 bit & 10bit resolution, the Input/ Output can run up to 15/15 meters
- Switchable EDID function for choosing the native resolution to display
- High performance HDMI 1.3 Matrix with 8 (eight) inputs and 8 (eight) outputs with remote control for link up HDMI devices to enjoying movies, music or games at once.
- Supports 38K IR extender
- 4U's simple design for easy installation
- Useful hot keys for quick set up
- Slide track with handles for easy store
- Firm housing structure with intensify placement allowing heat dispensing profoundly

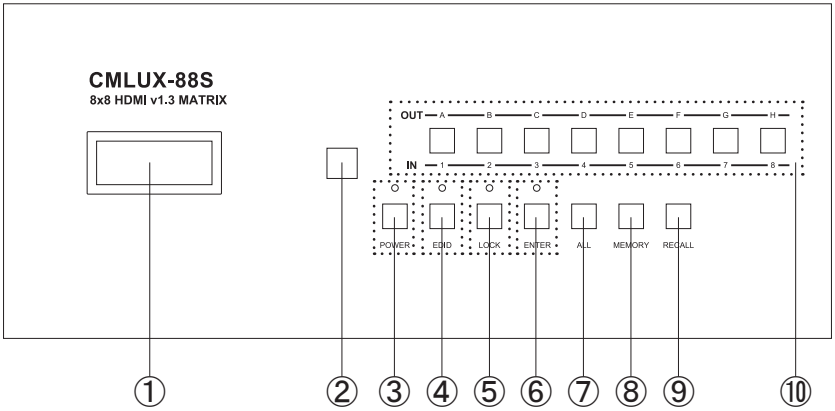
6. Specifications

Input Ports	8 x HDMI
Output Ports	8 x HDMI
IR	38KHz
Power Supply	24VDC/6A (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model: ± 10kV (air-gap discharge) ± 6kV (contact discharge) Core chipset: ± 2kV
Dimensions (mm)	482(W) x385(D) x 176(H)
Weight(g)	9500
Chassis Material	Aluminum
Silkscreen Color	Metal Black
Power Consumption	100W
Operating Temperature	0˚C ~ 40˚C / 32˚F ~ 104˚F
Storage Temperature	-20˚C ~ 60˚C / -4˚F ~ 140˚F
Relative Humidity	20~90% RH (no condensation)

7. Operation Controls and Functions

The following sections describe the hardware components of the unit.

7.1 Front Panel



① LCM monitor: This monitor displays your setting information with each output and input selection.

② IR sensor.

③ POWER: Press this button to turn on the system. When system is ON the LED will illuminate in GREEN. Press it again to enter into STANDBY mode, the LED will illuminate in RED.

④ EDID: Press this button to select the EDID function from the LCM. There will be two selection available shown in LCM; 1. TV Mode and 2. Standard Mode, press the number key to select the desire mode. When TV Mode is selected the LED will not illuminate, but in Standard Mode the LED will illuminate in GREEN color. After the selection is made, press enter key to confirm. Standard mode means the device will use internal built-in EDID and TV mode means the device will use TV/display's EDID. When EDID switched to TV, leave as it is if the displays are properly. Factory default setting is on TV mode.

Notes:

1. The device will detect the first HDMI output source's EDID and record in the unit. If the first detected output source is DVI it will pass to next source, until the first HDMI is detected. The detection priority is HDMI v1.3 > HDMI v1.2 > DVI.
2. When EDID is on STD, the device will use the built-in EDID
   Video Supports > 1080p 10 bits (max)
   Audio Supports > PCM2

⑤ LOCK: Press this button to lock all functions and press it again to release the lock function. When LED illuminate in GREED, lock function is activate. If the LED is not illuminate, the key lock is released.

⑥ ENTER: Press this button after each and every selection to confirm the setting. If this button is not pressed after 20 second of the selection, the selection will be avoid.

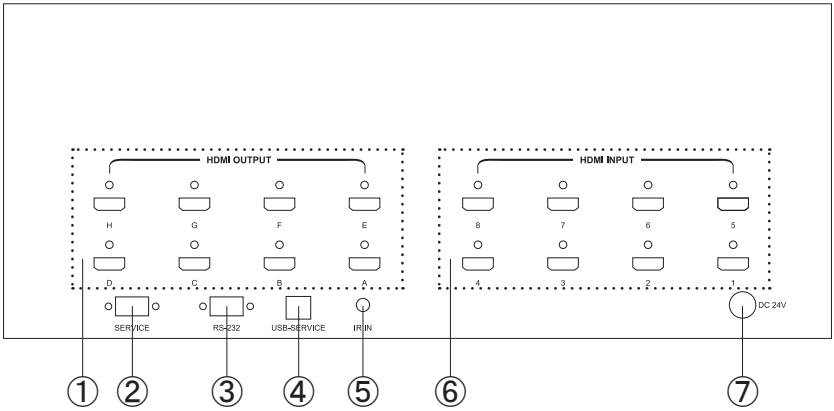
⑦ ALL: Press this button to set all the outputs to display with the same input. After press this All button press an input number and press enter to confirm the selection.

⑧ MEMORY: Press this button to set your desire setting total of 6 sets. Press the desire setting number first. When all the input/output are being set, press MEMORY to record into the system and there are 6 settings can record into the system. Factory default setting is 1.12345678, 2.87654321, 3.11223344, 4.55667788, 5.11221122, 6.33443344.

⑨ RECALL: Press this button to recall the previous setting from memory total of 6 sets, and select from 1~6 for the desire setting. Press enter button to confirm the selection.

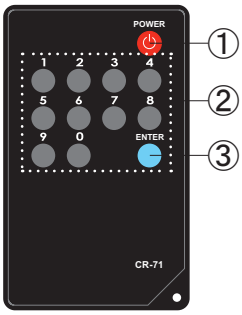
⑩ OUT A~H & IN 1~8: Press the output sources selection to correspond the input ports. Press first your output selection from A~H and wait for 2 sec. and press again the input selection from 1~8 then press the enter button to confirm your setting. Each output selection only allows a single input setting each time.

7.2 Rear Panel



① HDMI OUTPUT A~H: These slots are where you connect to the HDMI displays.
② SERVICE: This slot is where you connect with a D-Sub 9 pin male connector cable to your host side for firmware upgrading.
③ RS-232: This slot is where you connect with a D-Sub 9 pin female connector cable to your host side for controlling 8 by 8 HDMI Matrix.
④ USB SERVICE: This slot is where you connect with a USB B type connector cable to your host side for ISP (System Program) firmware burning CS8957 total of 4.
⑤ IR IN: This slot is where you can extend your IR receiver with IR extender cable that accepts only 38KHz.
⑥ HDMI INPUT 1~8: These slots are where you connect the HDMI or DVI output of your source equipments such as DVD player or set-top-box.
⑦ DC 24V: Plug the 24V DC power supply into the unit and connect the adaptor to AC wall outlet.

8. Remote Control



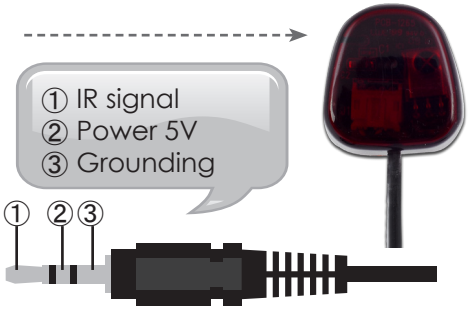
① Power: Press this button to turn ON/Standby the system.

② 1~0: These numbers buttons are for output and input port selection buttons. First select your desire output port (01~08) follow by input port (01~08) and press enter. Example: when users wish to select output 1 to display input source 2 then users will need to press 0102 + enter buttons. The green LED on top of the entry button in the front panel will blink when users push these buttons.

③ Enter: Press this button every time after your selection. If this button is not pressed after 5 second, the selection is avoid.

9. IR Pin Assignment

9.1 IR Receiver



9.2 3.5Ø Connectors Pin Definition

Pin	Assignment
1	Power 5V
2	IR Signal
3	GND

10. RS-232 Protocols

10.1 Pin Assignment

CMLUX-88S			**Remote Control Console**	
PIN	Assignment		PIN	Assignment
1	NC		1	NC
2	Tx		2	Rx
3	Rx	→	3	Tx
4	NC		4	NC
5	GND		5	GND
6	NC	←	6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

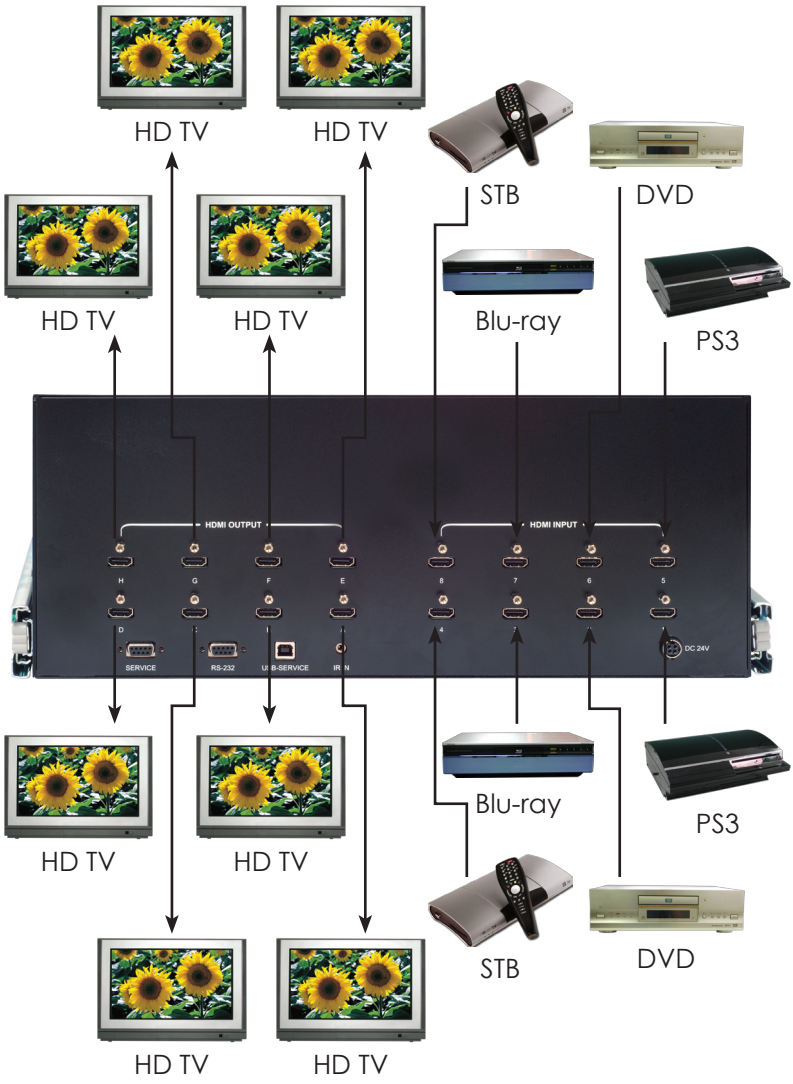
Baud Rate: 19200bps
Data bit: 8 bits
Parity: None
Flow Control: None

10.2 Commands

COMMAND	ACTION
POWER 00	Power Off (standby)
POWER 01	Power On
PORT 11	Output A select Input1
PORT 12	Output A select Input2
PORT 13	Output A select Input3
PORT 14	Output A select Input4
PORT 15	Output A select Input5
PORT 16	Output A select Input6
PORT 17	Output A select Input7
PORT 18	Output A select Input8
PORT 21	Output B select Input1
PORT 22	Output B select Input2
PORT 23	Output B select Input3
PORT 24	Output B select Input4
PORT 25	Output B select Input5
PORT 26	Output B select Input6
PORT 27	Output B select Input7
PORT 28	Output B select Input8
PORT 31	Output C select Input1
PORT 32	Output C select Input2
PORT 33	Output C select Input3
PORT 34	Output C select Input4
PORT 35	Output C select Input5
PORT 36	Output C select Input6
PORT 37	Output C select Input7
PORT 38	Output C select Input8
PORT 41	Output D select Input1
PORT 42	Output D select Input2
PORT 43	Output D select Input3
PORT 44	Output D select Input4
PORT 45	Output D select Input5
PORT 46	Output D select Input6

PORT 47	Output D select Input7
PORT 48	Output D select Input8
PORT 51	Output E select Input1
PORT 52	Output E select Input2
PORT 53	Output E select Input3
PORT 54	Output E select Input4
PORT 55	Output E select Input5
PORT 56	Output E select Input6
PORT 57	Output E select Input7
PORT 58	Output E select Input8
PORT 61	Output F select Input1
PORT 62	Output F select Input2
PORT 63	Output F select Input3
PORT 64	Output F select Input4
PORT 65	Output F select Input5
PORT 66	Output F select Input6
PORT 67	Output F select Input7
PORT 68	Output F select Input8
PORT 71	Output G select Input1
PORT 72	Output G select Input2
PORT 73	Output G select Input3
PORT 74	Output G select Input4
PORT 75	Output G select Input5
PORT 76	Output G select Input6
PORT 77	Output G select Input7
PORT 78	Output G select Input8
PORT 81	Output H select Input1
PORT 82	Output H select Input2
PORT 83	Output H select Input3
PORT 84	Output H select Input4
PORT 85	Output H select Input5
PORT 86	Output H select Input6
PORT 87	Output H select Input7
PORT 88	Output H select Input8

11. Connection and Installation



Acronyms

A

Acronym	Complete Term
DTS	Digital Theater System
DVI	Digital Visual Interface
EDID	Extedned Display Identification Data
HDCP	High-bandwith Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
LCM	Liquid Crystal Monitor
USB	Universal Serial Bus
UXGA	Ultra Extended Graphics Array
VGA	Video Graphics Array

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